

REMARKS/ARGUMENT**Regarding the Objections to the Drawings:**

A proposed amendment to the drawing is attached. Upon approval by the Examiner, a formal drawing incorporating the changes will be submitted.

The Examiner is respectfully requested to reconsider and withdraw the requirement for a drawing depicting the method of the invention. 37 C.F.R. 1.81(a) states that a drawing is required "where necessary for the understanding of the invention." It is respectfully submitted that the method of the invention, which is described in complete detail, can be fully understood by one skilled in the art without an drawing, and that a drawing, e.g., a flow chart, would add nothing to the understanding of the method aspect of the invention.

Regarding the Objections to the Specification:

A new title has been provided per the requirement in Section 4 of the outstanding Office Action.

Submitted herewith is a substitute specification pursuant to 37 C.F.R. 1.125(b) which addresses the objections stated in Section 6 of the outstanding Office Action and in which several other minor translation and syntax errors have been corrected. In this connection, the Examiner's attention is directed to the fact that the abbreviations "CD" and "RX" have been deleted, that "CNC-controlled" has been changed throughout the specification to - - CNC - - to eliminate the redundancy, and that "rough-cast lens" has been changed to - - lens blank - - throughout to correct a translation error. Also, the term - - lens meter - - has been added, and is used instead of "vertex refractometer", as it is the preferred term in the art.

No new matter has been introduced by any of the changes.

Regarding the Claims in General:

Claims 1-30 have been canceled and replaced by claims 31-60 to address formal issues raised in the outstanding Office Action, and other issues noted during preparation of this Response, and to

better highlight the distinguishing features of the invention over the prior art, as discussed below.

Regarding the Rejection under 35 U.S.C. 112:

New claims 31-55 address the issues raised by the rejection stated in Section 9 of the outstanding Office Action.

Regarding the Prior Art Rejections:

In the outstanding Office Action, claims 1-8, 13, 14, 18, 19, and 24-30 were rejected as anticipated by Wood U.S. Patent 5,210,695 (Wood), claims 9-12 and 20-22 were rejected as unpatentable over Wood in view of Kimura U.S. Patent 5,926,247 (Kimura), claims 15-17 were rejected as unpatentable over Wood in view of Ace U.S. Patent 4,656,590 (Ace), and claim 23 rejected as unpatentable over Wood in view of Fukuma et al. U.S. Patent 5,971,537 (Fukuma). Applicant respectfully submits that these rejections are not applicable to the claims now pending. Reconsideration and withdrawal of the rejections are accordingly requested.

Claims 1-30 have been rewritten as claims 31-60 to better highlight the distinguishing features of the invention, and the original translation has been revised to better reflect customary idiomatic English and grammar. For the Examiner's convenience, it is noted that new claim 31 substantially incorporates the features of original claims 1, 2, and 4, and that new apparatus claim 46 substantially incorporates the features of original claims 18, 20, and 27.

Kimura is the reference the most closely related to the present invention, but neither this, nor the Examiner's principal reference, Wood, teaches or suggests the subject matter of base claims 31 and 46.

In particular, claim 31, which is directed to a method of computer numerically controlled (CNC) spectacle lens machining, recites the following steps which are not taught or suggested by Wood, Kimura, or any of the other references:

... inputting data to [a] computer representing the ... curvature, shape, and periphery of a bezel of the selected spectacle frame ...

computing a required lens blank diameter from the inputted data;

visually displaying the lens blank diameter;

computing the curvature of a bevel on the spectacle lens to be machined from one or more of the optometric data, PD values, shape data, radii of the front or back surface, and center thickness of the spectacle lens;

generating CNC machining data based on the computed curvature;

comparing data characterizing the bezel of the selected spectacle frame with data characterizing a spectacle edge cutting tool in the machining apparatus and determining from the comparison if machining of the bevel is possible, and if so, whether any correction to the CNC machining data is required;

if correction of the CNC machining data is required to permit machining of the bevel, introducing required correction values in the machining data as a function of predetermined machining, workpiece and tool tolerances, and established deviations, before the CNC machining of the lens blank proceeds . . .

Comparison of the shape of the bezel of the selected spectacle frame with the shape of the bezel in an installed edge machining tool is important, since, on the one hand, the shape of the bezel in the selected spectacle frame is dependent on production tolerances, and, on the other hand, the shape of the bezel in the spectacle lens edge machining tool during the peripheral shaping of spectacle lenses is subject to wear with respect not only to the linear dimensions of the bezel, but also to its flank angle and a more or less large deviation from rectilinear behavior of the flanks.

The method of the invention makes it possible to carry out a comparison by computer of the shape of the bezel in the selected spectacle frame and the shape of the bezel in the spectacle lens edge machining tool and to have the computer make a decision as to whether machining of the bevel is possible, and if so, whether any corrections to the cutting instructions are needed. Thus, any necessary corrections can be computed, and the machining data (i.e., cutting instructions) modified accordingly.

Conversely, if the edge cutting tool has worn to the point that the bevel can not be cut to the required tolerance, the machining operation can be aborted to permit tool replacement, or other action to rectify the problem.

Greater machining precision is achieved in this way, with the result that it is possible to insert a spectacle lens machined according to the method of the invention into the selected spectacle frame without any refinishing work.

Since the above indicated features of claim 31 are not taught or suggested in Wood, Kimura, or any of the other references, whether considered alone or in combination, claim 31 should be allowed.

Apparatus claim 46 recites the following elements which are not taught or suggested in the references:

... a scanning unit connected to the computer for scanning the spectacle lens opening in a selected spectacle frame and the curvature, cross-sectional shape, and periphery of a bezel in the spectacle frame, and

a recognition device connected to the computer and operative to recognize the shape and dimensions of a bezel in the installed spectacle lens edge machining tool. . .

Nor is there any teaching or suggestion in the references that the computer should be operative to:

compare data characterizing the shape of the bezel in the selected spectacle frame with data characterizing a portion of the shape of the edge machining tool;

determine from the comparison if machining of a required bevel is possible with the edge machining tool, and if so, if any correction to the CNC machining data is required;

if correction of the CNC machining data is required to permit machining of the bevel, determine required correction values for the machining data as a function of predetermined machining, workpiece and tool tolerances, and established deviations, and incorporate the correction values in the machining data; and

operate the control device to machine the lens blank according to the machining data including any required correction values to form the peripheral shape and bevel for the lens.

Claim 46 should therefore also be allowed.

Claims 32-45, and 47-60 are respectively dependent on allowable claims 31 and 46, and are allowable for the reasons stated above. In addition, these claim recite features which, in combination with the features of their respective parent claims are neither taught nor suggested in any of the cited reference, either alone or in combination.

Regarding Other References Cited by the Examiner

The other references cited by the Examiner but not applied have been considered, but the present claims are not believed to be anticipated or rendered obvious by these references.

In view of the foregoing, favorable reconsideration and allowance of this application are respectfully solicited.

I hereby certify that this correspondence is being transmitted by Facsimile to (703) 872-9306 addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on the date indicated below.

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Signature

March 30, 2004

Date of Signature

LAH:mjb

Respectfully submitted,

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